Dongfeng Cummins

Techical Operations

ENGINE MODEL：6CTA8.3-C240
CURVE & DATASHEET：FR91499

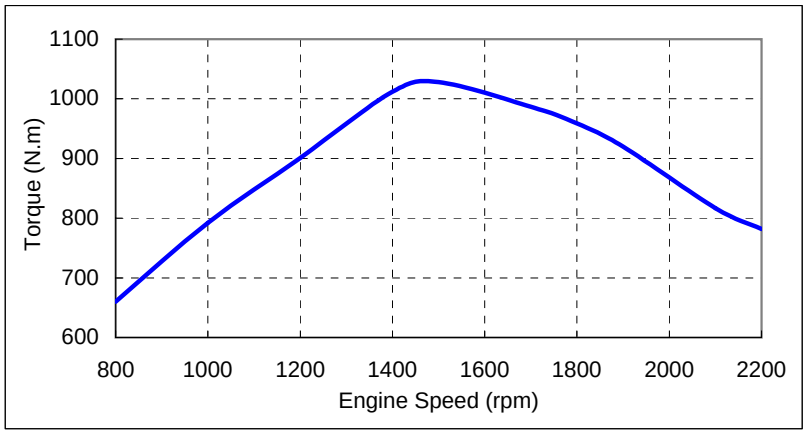
Rev01 JUN 15, 2006

DONGFENG CUMMINS ENGINE Co.,LTD Xiangfan,Hubei Province,China **Engine Performance Curve**	Basic Engine Model: **6CTA8.3-C240**		Curve Number: **FR91499**	*Pg. No :* 01
	Engine Family: **D41**	CPL Code: **0399**	Date: **2006-06**	

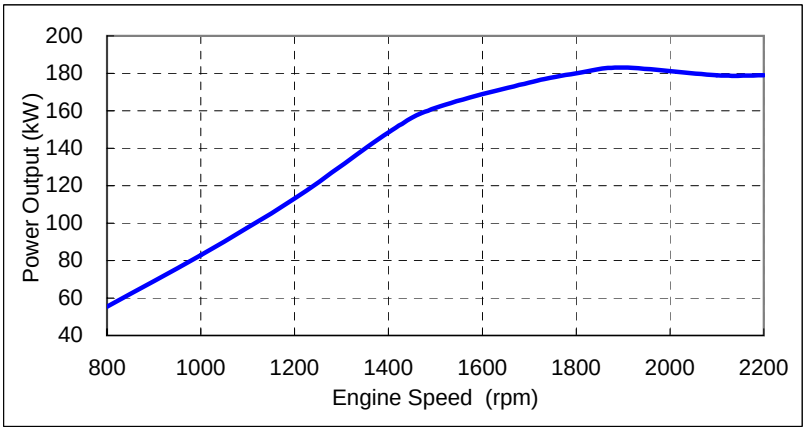
Displacement:	**8.3** L	Aspiration:	**Turbocharged & Aftercooled**		
Bore:	**114** mm			kW (BHP)	@ RPM
Stroke:	**135** mm	No.of Cylinders:	**6**	**179(240)**	**2200**
Emission Control:		Fuel System:	**Weifu PW2000/RSV**	**8% Governor Regulation**	

All data are based on the engine operating with fuel system,water pump,lubricating oil pump,and 250 mm H_2O inlet air restriction and with 50 mm Hg exhaust restriction; not included are altemator,fan,optional equipment and driven components.

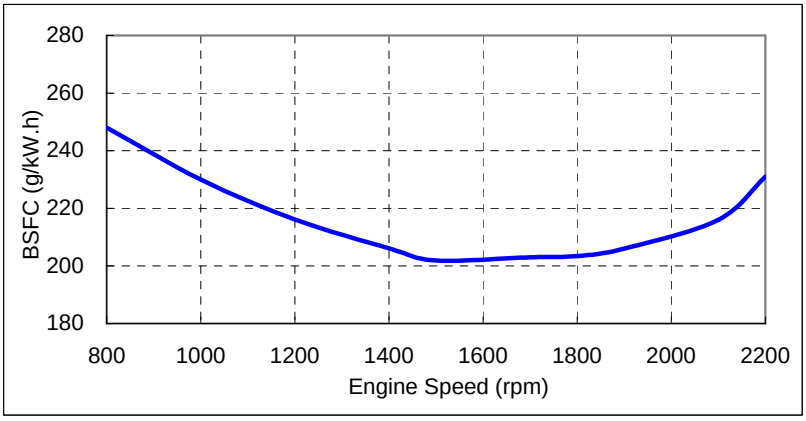
Performance Curve



TORQUE	
rpm	N.m
2200	782
2100	817
1900	920
1800	959
1700	987
1500	1028
1400	1012
1200	901
1000	792
800	660



POWER OUTPUT	
rpm	kW
2200	179
2100	179
1900	183
1800	180
1700	175
1500	162
1400	148
1200	113
1000	83
800	55



FUEL CONSUMPTION	
rpm	g/kW.h
2200	231
2100	216
1900	206
1800	204
1700	203
1500	202
1400	206
1200	216
1000	230
800	248

DONGFENG CUMMINS ENGINE Co.,LTD

Base Engine Data Sheet

ENGINE MODEL: **6CTA8.3-C240**
CONFIGURATION NUMBER: **D413061CX02**
AFTERCOOLED SYSTEM: **JWAC**
FUEL SYSTEM: **Weifu PW2000/RSV**

CPL NUMBER: **0399** DATA: **2006-06-15**
PERFORMANCE CURVE: **FR91499**
RATED POWER: **240** bhp @ **2200** rpm
179 kW @ **2200** rpm

GENERAL ENGINE DATA

Engine Wet Weight (Pricing Configuration)	-kg	637
Moment of Inertia of Rotating Components(Excluding Flywheel)	-kg·m^2	0.37
Center of Gravity from Front Face of Block	-mm	427
Center of Gravity above Crankshaft Centerline	-mm	163

ENGINE MOUNTING

Maximum (Static) Bending Moment at Front Support Mounting Surface	-N.m	495
Maximum (Static) Bending Moment at Side Pad Mounting Surface	-N.m	TBD
Maximum (Static) Bending Moment at Rear Face of Block	-N.m	1356
Moment of Inertia of Complete Engine		
- Roil Axis	-kg·m^2	23.6
- Pitch Axis	-kg·m^2	65.2
- Yaw Axis	-kg·m^2	55.9

EXHAUST SYSTEM

Maximum Back Pressure	-mmHg	76
Exhaust Pipe Size Normally Acceptable	-mm	75
Maximum Static Supported Weight at the Turbocharger Outlet Flange	-N.m	22.7
Exhaust Manifold Insulation Acceptable	-Yes/No	No
Turbocharger Insulation Acception	-Yes/No	No

AIR INTAKE SYSTEM

Maximum Intake Air Restriction with Heavy Duty Air Cleaner		
-Clean Element	-mmH_2O	381
-Dirty Element	-mmH_2O	635
Minimum Dirt Holding Capacity with Heavy Duty Air Cleaner	-g/litre/sec.	53
Maximum Temperature Rise from Ambient to the Inlet of the Turbocharger	-℃	17
Maximum Pressure Drop from the Turbocharger Outlet to the Intake Manifold	-kPa	TBD

LUBRICATION SYSTEM

Normal Operating Oil Pressure Range	-kPa	276 - 345
Maximum Lube Oil Flow for Engine Accessories	-litre/min.	7.6
Maximum Sump Oil Temperature	-℃	121
Minimum Engine Oil Pressure for Engine Protection Devices:		
-At Rated Speed and Load	-kPa	276
-At Torque Peak Speed and Load	-kPa	207
-At Low Idle	-kPa	69
Minimum Required Lube System Capacity - Sump plus Filters	-litre	21.9
By-pass Filtration Required	-Yes/No	Yes
Angularity of Standard Oil Pan:(Values stated are for intermittent operation only):OP		
-Front Down	- degrees	45
-Front Up	- degrees	45
-Side to Side	- degrees	45

NOTE: Conditions refer to rated power and speed unless otherwise noted.
TBD - To Be Determined
N/A - Not Applicable

COOLING SYSTEM

Coolant Capacity - Engine Only	-litre	9.8
Maximum Engine Cooling Circuit External Resistance	-kPa	34
Minimum Pump Inlet Pressure with Open Thermostat and no Pressure Cap	-mmHg	TBD
Maximum Static Head of Coolant Above Engine Crankshaft Centerline	-m	TBD
Standard (modulating）Thermostat Range	-℃	79 - 91
Maximum Block Coolant Pressure with Closed Thermostat and no Pressure Cap	-kPa	276
Minimum Pressure Cap	-kPa	50
Maximum Engine Coolant Temperature at Engine Outlet	-℃	98.9
Maximum Engine Coolant Temperature for Engine Protection Devices	-℃	104.4
Minimum Engine Coolant Temperature at	-℃	79.4
Minimum Fill Rate	-litre/min.	19
Maximum Initial Fill Time	-min.	5
Minimum Coolant Expansion Space	- %	6
Maximum Deaeration Time	-min.	25
Minimum Drawdown	- %	11%
（Drawdown Must Exceed the Volume Not Filled at Initial Fill & Must Not Include Expansion Space）		
Fan-on Engine Coolant Outlet Temperature	-℃	93
Shutter Opening Coolant Outlet Temperature	-℃	93
Shutter Opening Intake Manifold Air Temperature	-℃	N/A

CRANKING SYSTEM

		12 Volt	24 Volt
Minimum Battery Capacity - Cold Soak at -18°C or Above			
-Engine Only - Cold Cranking Amperes	-CCA	1250	625
-Engine Only - Reserve Capacity	-min.	360	180
Maximum Starting Circuit Voltage Drop @ --- Amperes	-Volts	TBD	
Minimum Ambient Temperature for Unaided Cold Start	-℃	-12	
Minimum Cranking Speed Required for Unaided Cold Start	-rpm	120	
Breakaway Torque at Minimum Unaided Start Temperature	-N.m	1051	
Cranking Torque at Minimum Unaided Start Temperature	-N.m	508	
Cranking Torque at -10℃	-N.m	TBD	

FUEL SYSTEM

Maximum Fuel Flow on the Supply Side of the Fuel Pump	-litre/hr.	300
Maximum Fuel Inlet Restriction		
-with clean fuel filter	-mmHg	102
-with dirty fuel filter	-mmHg	203
Maximum Fuel Drain Restriction		
-with check valves	-mmHg	510
-less check valves	-mmHg	TBD
Maximum Fuel Inlet Temperature	-℃	71
Minimum Fuel Tank Air Venting Capability Required at 6 inH_2O Back Pressure	-litre/hr.	340

NOTE: Conditions refer to rated power and speed unless otherwise noted.
TBD - To Be Determined
N/A - Not Applicable

Minimum Low Idle Speed	-rpm	1000
Maximum Governed Speed	-rpm	2460
Maximum Overspeed Capability	-rpm	3750
Closed Throttle Torque @ 700 rpm（for 900 rpm Low Idle Speed)	-N.m	280
Minimum Combined Converter and Hydraulic Stall Speed	-rpm	1600
Crankshaft Thrust Bearing Load Limit		
-Maximum Intermittent	-N	1627
-Maximum Continuous	-N	1085

EMISSIONS

Estimated Free Field Sound Pressure Level At 15m and Full Load Governed Speed（Excludes Noise from Intake,Exhaust,Cooling System and Driven Components）		
-Right Side	-dBa	83
-Left Side	-dBa	83
-Front	-dBa	82
-Rear	-dBa	TBD
Gaseous Emissions per ISO 8178:		
-NOx	g/kW.h	TBD
-HC	g/kW.h	TBD
-CO	g/kW.h	TBD
-Particulates	g/kW.h	TBD

Fuel Rating Option used for these Data：**FR91499**

		RATED	MAXIMUM POWER POINT	PEAK TORQUE
Engine Speed	-rpm	2200		1500
Gross Power Output	-kW	179		161
Torque	-N.m	777		1028
Intake Manifold Pressure	-kPa	153		138
Motoring Friction Horsepower	-kW	TBD		TBD
Turbocharger Compressor Outlet Pressure	-kPa	159		145
Intake Air Flow	-litre/sec.	324		191
Exhaust Gas Flow	-litre/sec.	836		532
Turbocharger Compressor Outlet Temperature	-℃	TBD		TBD
Exhaust Gas Temperature - Dry Stack	-℃	470		522
Heat Rejection to Ambient（Dry Manifold）	-kW	68		51
Heat Rejection to Coolant（Dry Manifold）	-kW	91		75
Heat Rejection to Fuel	-kW	0.5		0.4
Engine Coolant Flow	-litre/sec.	4.5		3
@ External Cooling Circuit Resistance	-kPa△ P	34.5		17.3
Altitude Limitations:				
-Intermittent	-m	TBD		TBD
-Continuous	-m	3000		3000
Steady State Smoke	-Bosch	1.5		2.0

NOTE: Conditions refer to rated power and speed unless otherwise noted.
TBD - To Be Determined
N/A - Not Applicable